

Using the Quadratic Formula - Step-by-Step Lesson

Solve using the quadratic formula.

$$6y^2 - 9y + 3 = 0$$

Explanation:

We will use the quadratic formula is $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Where $a \neq 0$.

We can use it to solve a quadratic equation ($ax^2 + bx + c = 0$).

Now we will use the quadratic formula to solve $6y^2 - 9y + 3 = 0$.

In this case $a = 6$ $b = -9$ $c = 3$. We plug those values in:

$$y = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$y = \frac{-(-9) \pm \sqrt{(-9)^2 - 4(6)(3)}}{2(6)}$$

$$y = \frac{9 \pm \sqrt{81 - 72}}{12}$$

$$y = \frac{9 \pm \sqrt{9}}{12}$$

$$y = \frac{9 - \sqrt{9}}{12} \quad \text{or} \quad y = \frac{9 + \sqrt{9}}{12}$$

$$y = \frac{9 - 3}{12} \quad \text{or} \quad y = \frac{9 + 3}{12}$$

$$y = \frac{1}{2} \quad \text{or} \quad y = 1$$

